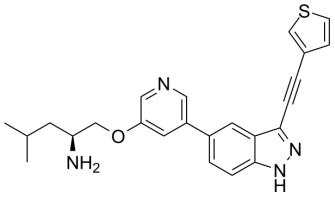
LQ23

Cat. No.:	HY-162398
CAS No.:	2997615-62-8
Molecular Formula:	$C_{24}H_{24}N_4OS$
Molecular Weight:	416.54
Target:	CDK
Pathway:	Cell Cycle/DNA Damage
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	LQ23 is a selective inhibitor for CDC2-like kinase 2 (CLK2) with an IC_{50} of 1.4 nM. LQ23 exhibits anti-inflammatory activity[1].
IC_{50} & Target	IC_{50}: 1.4 nM (CLK2), 2.1 nM (CLK1), 3.2 nM (CLK4), 21.7 nM (DYRK1A), >100 nM (CLK3)

In Vitro

LQ23 (10-100 nM) dose-dependently inhibits SR protein phosphorylation in chondrocytes, and thereby regulates the selective cleavage of genes[1].
LQ23 (10-100 nM) dose-dependently inhibits CHIR99021-stimulated Wnt-signaling in HEK-293T cells with IC_{50} of 2.9 μM[1].
LQ23 (30 nM) ameliorates osteoarthritis through promotes the bone mesenchymal stem cells (BMSC) differentation into chondrocytes and suppresses the cartilage degradation[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	Chondrocytes
Concentration:	10-100 nM
Incubation Time:	1 h
Result:	Reduced phosphorylated SRSF4, SRSF5 and SRSF6. Reduced levels of β-catenin and c myc.

In Vivo

LQ23 (1.5 μg/ kg, single IA injection) inhibits inflammation, protects cartilage and improves function in the monosodium iodoacetate (MIA)-induced and ACLT-pMMx-induced osteoarthritis in Sprague-Dawley rats[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	MIA-/ACLT-pMMx-induced osteoarthritis in Sprague-Dawley rats model[1]
Dosage:	1.5 μg/ kg
Administration:	Single IA injection
Result:	Ameliorated the surface of the articular cartilage and the cell arrangement, reduced the thickness of the synovium, increased the gap between the femur and the tibia.

	Reduced the levels of inflammatory cytokines and catabolic enzymes.

REFERENCES

[1]. Sun Y, Hu T, Zhang M, Song J, Qin Z, Liu M, Ji J, Li Z, Qiu Z, Bian J. Structure-Guided Discovery of Potent and Selective CLK2 Inhibitors for the Treatment of Knee Osteoarthritis. J Med Chem. 2024 Mar 28;67(6):4603-4623.

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